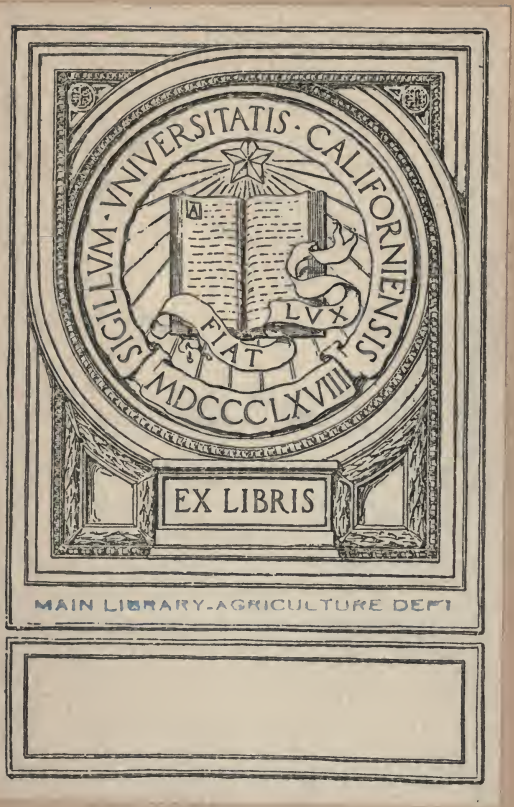

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THE FOOD LAWS OF THE UNITED KINGDOM AND THEIR ADMINISTRATION.

BY

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LETTER OF TRANSMITTAL

U. S. Department of Agriculture,
Bureau of Chemistry,
Washington, D. C., May 4, 1911.

Sir: I have the honor to transmit for your approval a report on an investigation which I have made of the food laws of Great Britain and their administration. Due acknowledgment is made to Dr. G. S. Buchanan, Acting Chief Inspector of Foods of the Local Government Board, as well as to E. G. Haygarth Brown, Esq., Superintending Inspector, Board of Agriculture and Fisheries of Great Britain, for the aid which they have given me. I recommend that this report be published as Bulletin No. 143 of the Bureau of Chemistry.

Respectfully,

F. L. Dunlap,
Acting Chief.

Hon. James Wilson,
Secretary of Agriculture.

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THE FOOD LAWS OF THE UNITED KINGDOM AND THEIR ADMINISTRATION.

INTRODUCTION.

LIST OF ENGLISH FOOD LAWS.

The food and drugs act of the United States, enacted June 30, 1906, deals not only with foods and drugs which enter interstate commerce or are sold within the District of Columbia or the Territories, but also with those products which are either exported or imported. As far as exports are concerned the food law provides:

(Sec. 2.) That no article shall be deemed misbranded or adulterated within the provisions of this act when intended for export to any foreign country and prepared or packed according to the specifications or directions of the foreign purchaser when no substance is used in the preparation or packing thereof in conflict with the laws of the foreign country to which said article is intended to be shipped * * *.

Food and drug imports coming into the United States are subject to examination on the part of the Secretary of Agriculture in order to determine whether or not they are adulterated or misbranded, and (sec. 11)—

* * * if it appear from the examination of such samples that any article of food or drug offered to be imported into the United States is adulterated or misbranded within the meaning of this act, or is otherwise dangerous to the health of the people of the United States, or is of a kind forbidden entry into, or forbidden to be sold or restricted in sale in the country in which it is made or from which it is exported, or is otherwise falsely labeled in any respect, the said article shall be refused admission, and the Secretary of the Treasury shall refuse delivery to the consignee * * *.

If section 11 of our national law is to be strictly enforced a thorough working knowledge of the foreign food laws and their various regulations is necessary. Acquaintance with the methods of administration is also desirable. The problems are much the same in all countries where a serious attempt is made to combat the adulteration and misbranding of food and drugs; hence much of value may be learned by a study of the foreign food laws and their administration. Some of the laws which are in operation now in the United Kingdom governing the sale of foods date back to the early part of the eighteenth century. However, most of them, and also those covering

different types of drugs, were passed much later. The following is a list of these laws now in force, with the dates of their passage:

1. Coffee act, 1718.
2. Coffee and tea act, 1724.
3. Coffee and tea act, 1730.
4. Tea act, 1776.
5. Bread act, 1836.
6. The sale of food and drugs act, 1875.
7. The sale of food and drugs act, 1879.
8. The margarine act, 1887.
9. The sale of food and drugs act, 1899.
10. Butter and margarine act, 1907.
11. Fertilizer and feeding stuffs act, 1906.
12. Public health (regulations as to food) act, 1907.
13. Merchandise marks acts, 1887–1894.

Nos. 6 to 10, inclusive, are known collectively as the sale of food and drugs acts, 1875–1907.

The most important of these acts now operative in England, Scotland, and Ireland, as far as foods and drugs are concerned, are the sale of food and drugs act of 1875 and its amendments, the margarine act of 1887, and its amended form as passed in the butter and margarine act of 1907.

DEFINITION OF TERMS.

In the sale of food and drugs act, 1899, the term "food" is defined as including "every article used for food or drink by man, other than drugs or water, and any article which ordinarily enters into or is used in the composition or preparation of human food; and shall also include flavoring matters and condiments." (The sale of food and drugs act, 1899, sec. 26.) This definition of "food" is in some senses more restricted than the definition in the United States food and drugs act, which, by use of the phrase "or other animals," includes those substances used as food by horses, swine, poultry, etc. In order to cover this field in Great Britain and Ireland, the fertilizers and feeding stuffs act of 1906 was enacted, and includes among the animals to which it applies cattle and poultry, "the term 'cattle,' for the purpose of this act, meaning 'bulls, cows, oxen, heifers, calves, sheep, goats, swine, and horses.'" (The fertilizers and feeding stuffs act, 1906, secs. 1 and 10.)

In the sale of food and drugs act, 1875, the term "food" was defined so as to "include every article used for food or drink by man other than drugs or water" (sec. 2).[1] In 1894 the English courts held that a baking powder composed of bicarbonate of soda, alum,

[1] Note the similarity in the definition of "food" in the United States law: "include all articles used for food, drink, * * * by man * * *."

and rice was not a food within the meaning of the act. In order to broaden the definition so as to include such substances as baking powder, the phraseology as already indicated was adopted in the act of 1899.

The food law of the United States follows, in certain particulars, quite closely the wording used in the act of 1875 in its definition of the word "food." In section 6 of the food and drugs act the term "food" is defined so as to include "all *articles used for food*, drink, confectionery, or condiment by man or other animals, whether simple, mixed, or compound." The italicized portion of this definition is identical with the wording of the act of 1875.

Under the Federal law all articles whether used per se or not for food are considered as coming within the above definition, thus including articles such as flour, baking powder, coal-tar dyes, etc. In this connection it is interesting to note the definition of misbranding as found in section 8, which provides "That the term 'misbranded,' as used herein, shall apply to all articles of * * * food, *or articles which enter into the composition of food*, * * * etc." No such phraseology as that italicized is found in the adulteration section, section 7.

In the sale of food and drugs act, 1875, the term "drug" includes "medicine for internal or external use" (sec. 2). This definition was not modified by the 1899 amendment. It is not so broad as the definition given in the United States law, according to which "all medicines and preparations recognized in the United States Pharmacopœia or National Formulary for internal or external use, and any substance or mixture of substances intended to be used for the cure, mitigation, or prevention of disease of either man or other animals," are subject to this act.

The same question has arisen under the English law as will doubtless arise in the enforcement of our own, namely, What is the status of those substances having a twofold function, first, that of a drug, and second, that of a substance used purely for technical purposes? In 1896 this question was decided in the English courts with reference to beeswax, a sample of which had been sold and on examination was discovered to contain about 50 per cent of paraffin. The sample was sold by a grocer and not by a druggist, and the courts held that although beeswax is used in a medicinal way and is recognized by the British Pharmacopœia, yet in the present case the product was not a drug. The point at issue seems to hinge on the question of whether or not the product sold is intended for medicinal purposes. A similar view has been taken by the United States Department of Agriculture. Substances often used as drugs, that is, recognized by the Pharmacopœia, but which are likewise used for technical purposes, if labeled "For technical purposes" and intended for such use,

are considered as not subject to the food and drugs act. Food Inspection Decision No. 103, on "The labeling of turpentine," clearly sets forth the department's views respecting a substance recognized by the United States Pharmacopœia, yet having a large technical use as well. In this decision it is held that "when wood turpentine is labeled 'Not for medicinal use,' etc., it is not subject to the food and drugs act. When not so labeled it is in violation of section 7 of the food and drugs act unless labeled 'wood' or 'stump' turpentine."

This policy is outlined in Food Inspection Decision 58 and the same principle applies also to foods which have a technical use, as, for example, olive oil. With respect to importations this phase of the question is covered by Food Inspection Decision 93, which is an amendment to Regulation 34 of Circular 21, Revised, of the Secretary's office. This regulation as amended reads as follows:

> Unless otherwise declared on the invoice, all substances ordinarily used as food products will be treated as such. Shipments of substances ordinarily used as food products intended for technical purposes should be accompanied by a declaration stating that fact. Such products should be denatured before entry, but denaturing may be allowed under customs supervision, with the consent of the Secretary of the Treasury, or the Secretary of the Treasury may release such products without denaturing, under such conditions as may preclude the possibility of their use as food products.

ADMINISTRATIVE WORK AND METHODS OF ENFORCEMENT.

GENERAL ADMINISTRATIVE MEASURES.

Before entering into a further discussion of these laws it is desirable that a brief account of their method of enforcement be given. This control is very much subdivided and is somewhat complex. In some ways this subdivision of control and authority suggests the condition existing in the United States, although its existence is for different reasons. In the United States each State has its own separate law and its own controlling officers, while the Federal law controls only the manufacture and sale of foods and drugs in the District of Columbia and the Territories, the shipment of these commodities, in interstate and foreign commerce, and their sale in the "original package,"[1] although the line of demarcation between State and National control is sharply drawn. In the United States most of the States have laws modeled quite closely after the national law, while in the United Kingdom one and the same law is operative throughout Great Britain and Ireland. The sale of food and drugs acts specify the local authorities by whom the acts are to be administered (the

[1] The term "original package" here used means the original package as defined by the Supreme Court with respect to articles of interstate commerce. Decisions bearing on this point are found in Food Inspection Decision 86.

The Supreme Court decided March 13, 1911 (Hipolite Egg Co. *v.* U. S.), that adulterated and misbranded articles of food which have been transported in interstate commerce are liable to seizure within the boundaries of a State as long as they remain in the original unbroken packages.

county councils and certain town and borough councils), and they require every such authority to appoint a public analyst and to make arrangements for the collection of samples of foods to be examined by the public analyst. The appointments of public analysts have to be sanctioned by the Local Government Board, and a general supervision is exercised by that department over the methods of administration by the local authorities. Subject to such general control, it rests with each local authority, on the reports of the public analyst and other officers, to enforce the law against offenders, to issue warnings to traders, or take other action for the purpose of checking these forms of adulteration or misbranding of foods to which the sale of food and drugs acts are applicable. There are at present 233 local authorities administering the sale of food and drugs acts in England and Wales. These acts are the same in the jurisdiction of all local authorities and there are no special additions in local areas.[1]

The sale of food and drugs act, 1899, section 2, gives direct power to the Local Government Board and the Board of Agriculture and Fisheries to sample articles of food. By so doing these central authorities can determine whether or not the local authorities are doing their duty properly. The fees for the analyses are paid by the local authority where the samples are collected, and it is the duty of the local authority to cause proceedings to be instituted when the board makes adverse reports based on such analyses.

The sale of food and drugs act of 1875 was designed chiefly as a measure of administration, and made little provision for any direct action by the central departments of government, but the subsequent acts have provided for central action in several directions. There are now six government departments which in different ways are concerned in the administration of these laws, namely, the Local Government Board of England, and the Local Government Boards for Scotland and Ireland; the Board of Agriculture and Fisheries, which has jurisdiction in England and Scotland; the Department of Agriculture and Technical Instruction in Ireland, and the commissioners of customs and excise. These departments communicate with the local authorities on the matters with which they are concerned and when necessary cooperate with one another.

The act of 1899 gave special duties and authority to the Board of Agriculture and Fisheries as far as adulteration of agricultural products (butter, milk, cheese, etc.) was concerned, in addition to the general power of supervision in connection with the adulteration of

[1] In this respect these sales of food and drugs acts differ from the public health acts. The public health acts make certain provisions as to unsound food, milk, etc., for the whole country, but in addition some local authorities have obtained clauses in special acts of Parliament giving them wider powers in their jurisdictions. Many local authorities have in this way special powers to secure the cleanliness of ice cream, while some of the principal towns have special "milk clauses" under which, when milk is found to contain tubercle bacilli, the milk from the herd giving the infected product may be prohibited entry into the town.

all articles of food which is imposed on the Local Government Board in the interests of the consumer.

TECHNICAL QUESTIONS REFERRED TO SPECIAL COMMISSIONS.

MISCELLANEOUS REPORTS MADE BY MEDICAL DEPARTMENT, LOCAL GOVERNMENT BOARD.

An expert subdivision of the medical department of the Local Government Board has been established for five years, and handles technical and administrative questions relating to the purity and wholesomeness of the food and drug supply of the country. The duties required of this separate division are "to advise the board as to the administration of the sale of food and drugs acts and other acts relating to food questions; to deal with matters relating to the purity and adulteration of foods which are brought to the board's attention by public analysts, medical officers of health, and others; to obtain information upon special questions relating to the purity and adulteration of food, and the use of deleterious substances therein; and to make suitable inquiries and investigations for the purpose." At the present time the work is under the control of a chief inspector of foods and five inspectors.[1] The technical assistance necessary to carry on the work of this staff is obtained from various sources "by means of the allowance allowed to the subdepartment for laboratory assistance and investigation."

Beginning in 1906, the medical department of the Local Government Board has published from time to time special reports of the inspectors of foods, in addition to annual reports by the chief inspector. Up to the present time 13 reports have appeared. These reports are of great interest and of particular value in many ways to those who are interested in the relation of food to public health. Some of these reports likewise deal with other subjects of moment to the manufacturer of foodstuffs as well as to those who are interested in the administration of our various food laws, both State and National. The reports,[2] as far as published, are as follows:

1. On the changes in certain meat essences kept for several years in tins (1906). Dr. G. S. Buchanan and Dr. S. B. Schryver, D. Sc.
2. Lead and arsenic in tartaric acid, citric acid, and cream of tartar (1907). Dr. A. W. J. MacFadden.
3. On certain imported meat foods of questionable wholesomeness (1908). Dr. G. S. Buchanan.
4. On inquiries with regard to the wholesomeness of tripe of home and foreign origin (1908). Dr. A. W. J. MacFadden.
5. On the preparation and sale of vinegar in relation to the administration of the sale of food and drugs act (1908). Dr. J. M. Hamill.
6. On preservatives in meat foods packed in cans or glass (1908). Dr. A. W. J. MacFadden.

[1] The acting chief inspector of foods is Dr. G. S. Buchanan.

[2] These reports are sold at from 3 to 4 pence apiece and may be had from Wyman & Sons (Ltd.), Fetter Lane, London, E. C.; Oliver & Boyd, Edinburgh; or E. Ponsonby, 116 Grafton Street, Dublin.

7. On the presence of tin in certain canned foods (1908). Dr. G. S. Buchanan and Dr. S. B. Schryver, D. Sc.

8. On "facing" and other methods of preparing rice for sale (1909). Dr. J. M. Hamill.

9. On the application of formaldehyde to meat (1909). Dr. G. S. Buchanan and Dr. S. B. Schryver, D. Sc.

10. On the use of preservatives in cream (1909). Dr. J. M. Hamill.

11. On a parasitic condition met with in Australian beef (1911). Dr. A. W. J. MacFadden and R. T. Leiper.

12. (a) On the bleaching of flour and the addition of so-called "improvers" to flour (1911). Dr. J. M. Hamill.

(b) On the chemical changes produced in flour by bleaching (1911). Dr. G. W. Monier-Williams.

13. On the presence of calcium sulphate in baking powder and self-raising flour (1911). Dr. J. M. Hamill.

As has been pointed out, the Local Government Board exercises a directing hand in the administrative work of the sale of food and drugs act as applied by the counties, boroughs, etc. When it appears that through laxity of method, or otherwise, satisfactory administration is not being obtained, the board recommends that the local authorities make such changes as must result in a more satisfactory state of affairs.

The reports of the inspectors of foods appear to have been of great value in aiding the proper and forceful administration of the law. With few exceptions, the food laws of Great Britain have no standards incorporated in the law itself or published otherwise for the guidance of manufacturers or the local authorities and analysts. In these reports of the inspectors suggestions for standards have been made, which appear to be of considerable value and assistance. For example, in Dr. MacFadden's report on "Lead and arsenic in tartaric acid, citric acid, and cream of tartar," a standard is suggested which limits the lead and arsenic [1] to a limit, respectively, of one-seventh and one one-hundredth grain in 1 pound of these substances. The lead figure was based on a "trade standard" which had been used for cream of tartar for some time, while the arsenic standard was based on the Final Report of the Royal Commission on Arsenical Poisoning (1903). Again, Dr. Hamill, in his report "on the preparation and sale of vinegar, in relation to the administration of the sale of food and drugs acts," discusses the fraud perpetrated on the consuming public because of an incorrect description in connection with the sale of various types of this food product, and states that if proper administrative control could be given to definitions similar to those found in the United States [2] it would operate to the advantage of the consumer and dealer.[3]

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[1] Calculated as arsenious oxid.

[2] Circular 19, Office of the Secretary, United States Department of Agriculture, "Standards of purity for food products."

[3] Report on work of the inspectors of foods for 1906–1908. A report by G. S. Buchanan, M. D., B. Sc. (1909).

COMMITTEE REPORT ON PRESERVATIVES AND COLORS.

From the administrative viewpoint, considerable attention has been paid in the United Kingdom to the propriety of the use of preservatives in foodstuffs. In order that this matter might be given a thorough investigation, the whole question was submitted to a committee, a very full report of which was published in 1901 under the title "Report of the departmental committee appointed to inquire into the use of preservatives and coloring matters in the preservation and coloring of food." This committee consisted of four members, and, with the exception of a minority report "Concerning the use of copper sulphate in the greening of vegetables," by Dr. F. W. Tunnicliffe, the recommendations of the committee were unanimous. Their recommendations are as follows:

(*a*) That the use of formaldehyde or formalin, or preparations thereof, in foods or drinks be absolutely prohibited, and that salicylic acid be not used in a greater proportion than 1 grain per pint in liquid food and 1 grain per pound in solid food, its presence in all cases to be declared.

(*b*) That the use of any preservative or coloring matter whatever in milk offered for sale in the United Kingdom be constituted an offense under the sale of food and drugs acts.

(*c*) That the only preservative which it shall be lawful to use in cream be boric acid or mixtures of boric acid and borax, and in amount not exceeding 0.25 per cent expressed as boric acid, the amount of such preservative to be notified by a label upon the vessel.

(*d*) That the only preservative permitted to be used in butter and margarine be boric acid or mixtures of boric acid and borax, to be used in proportions not exceeding 0.5 per cent expressed as boric acid.

(*e*) That in the case of all dietetic preparations intended for the use of invalids or infants chemical preservatives of all kinds be prohibited.

(*f*) That the use of copper salts in the so-called greening of preserved foods be prohibited.

These recommendations have never been enacted into law. Some of them are, however, used as a basis for prosecution in the United Kingdom under the sale of food and drugs acts, particularly in the case of milk to which preservatives have been added.[1]

With reference to the above recommendations it should be pointed out that Dr. F. W. Tunnicliffe put in a minority report on "The use of copper sulphate in the greening of preserved vegetables, etc." This report is as follows:

I agree with the above report, except as to paragraph 127 and recommendation F. With regard to the question of the addition of copper sulphate to preserved vegetables and fruits for the purpose of rendering them permanently green I regret that I am not quite in agreement with my colleagues. I regard it as established that these substances, as well as many other articles of diet, naturally contain copper, and that copper is constantly being introduced into food by the ordinary culinary processes, and further that although the copper is added in a soluble and absorbable

[1] The Local Government Board has power to fix standards on preservatives in butter and margarine under section 7 of the butter and margarine act.

form to the vegetables, it is not so present in them as consumed, being converted by them into a relatively insoluble and unabsorbable compound. I can conceive of no conditions under which the small quantity of copper present in the above form in properly preserved peas could be injurious to any consumer to whom the peas themselves would be harmless. In addition, I can see, so far as concerns a possible injurious effect, no analogy between this compound of copper in green vegetables which are eaten by the ounce and a highly soluble salt of lead in water, or of arsenic in beer, both liquids drunk by the quart or gallon. It must be remembered also in this connection that in France an order was issued prohibiting the use of copper for the above purpose and that this order had subsequently to be rescinded. It also appears that in Germany, where the use of copper for artificial greening of vegetables, etc., is prohibited, preserved vegetables containing copper are easily obtainable on the open market, apparently showing that the actual enforcement of the prohibition is attended with difficulty.

Recent research has distinctly taught us that, from the point of view of its nutritive value, great importance attaches to the appetizing appearance of food, and in my opinion we should not without very definite reason arbitrarily prevent the gratification of the public taste for a perennial supply of green vegetables and thereby destroy if not an important at least a thriving industry.

I am, however, satisfied that often an unnecessarily large amount of copper is present in vegetables permanently colored by means of it, and although in spite of diligent inquiry no injurious results have been known to have accrued even from these quantities, yet nevertheless only the necessary amount should be added. I should, therefore, recommend that the presence of copper in these preserved vegetables be in every case declared and that its amount be restricted to half a grain of metallic copper per pound.

Paragraph 127 referred to by Mr. Tunnicliffe is as follows:

127. The employment of copper sulphate to color peas and other vegetables has been carefully considered by us. It is highly undesirable that what is admittedly a poisonous drug should be used, even to the smallest extent, in connection with such food as may be consumed in considerable quantity. The public have got into their heads that vegetables ought to be green, and green they insist upon having them. Direct proof that vegetables containing copper are injurious to the consumer is from the very nature of the case difficult to obtain, and we must admit that we have not succeeded in obtaining it. There is evidence pointing to the conclusion that the copper, when added to the vegetables, forms a compound which is not easily soluble in the human economy. There is, however, evidence of a contrary character, and it is not clear to us that the whole of the copper added becomes, or remains, insoluble under all conditions. Be this as it may, recent events have so incontestably demonstrated the serious and widespread mischief which may result from the consumption of food and drink, other than sweetmeats, containing even minimal quantities of poisonous metallic substances, that we are strongly of opinion that such poisonous substances should be rigorously excluded.

It might be pointed out that the recommendations of this committee are not at one with the views which have found expression in the administration of the food law of the United States. Salicylic acid is looked upon as being of a nature requiring absolute prohibition in foodstuffs; the same is true of boric acid and borax; and the question as to the propriety of the use of copper salts in the greening of vegetables is at the present time in the hands of the referee board of consulting scientific experts, who are expected to report to the

Secretary of Agriculture as to whether they should be used for the purpose indicated.

COMMISSION REPORT ON WHISKY AND OTHER POTABLE SPIRITS.

In the United Kingdom the subject of whisky and other potable spirits has also been submitted to a commission, and only recently (1909) it reported the results of its investigation under the title of "The final report of the Royal commission on whisky and other potable spirits." The Royal commission definition of "What is whisky" is fundamentally the same as that of President Taft, namely, that, broadly speaking, all distillates from grain, if of potable strength, are "whisky."

There is an evident tendency to submit the more important questions arising in the administration of the sale of food and drugs acts to a commission for the taking of testimony and for the preparation of the reports to be used for the guidance of those who must administer these laws.[1] The report of the Royal commission on whisky and other potable spirits is, however, the second report on this subject. The first was issued about 20 years ago, and is entitled "Report from the Select Committee on British and Foreign Spirits" (1890–91).

CONTROL OF IMPORTS BY THE COMMISSIONERS OF CUSTOMS.

SCOPE OF WORK COMPARED WITH THAT OF LOCAL GOVERNMENT BOARD.

It has been pointed out that the commissioners of customs operate under the sale of food and drugs act at the ports of entry. This duty was laid upon them in the act of 1899. As an administrative detail of this work of the commissioners of customs it is to be noted that it is the commissioners themselves who must enforce the provisions and not the local authorities as in the case of the general provisions of this act. As far as their authority extends it is broad enough to control all types of foods offered for import, although particular provisions are made covering dairy products or substitutes for dairy products, as margarine, adulterated butter, condensed milk, etc. His Majesty may, by order in council, direct this section (11) of the sale of food and drugs act, 1899, to apply to "any adulterated or impoverished article of food," but a study of the work of the commissioners shows that its duties are more closely confined to the specific provisions of this section applying to dairy products and

[1] In the address of the president of the Society of Public Analysts and of other Analytical Chemists, published in the February number of the Analyst, 1911, reference is made to a conference organized by the County Councils' Association which was held in London in March, 1910. At this conference it was recommended that "an expert board of reference should be constituted to decide controversial questions of chemistry, hygiene, or physiology." This conference also passed a resolution with regard to the fertilizers and feeding stuffs acts that "it was a matter of urgency that the question of 'standards' under the fertilizers and feeding stuffs acts should be dealt with by an expert board of reference."

substitutes therefor. However, any adulterated or impoverished article of food, if plainly labeled to indicate the fact that it has been so treated, is not subject to these provisions.

The analyses of samples taken by the commissioners of customs are always made by the Government chemists at the bureau of inland revenue, and in this way also their work is differentiated from the work of the local authorities, who use the local analysts, except under conditions which will be outlined later.

In the annual report of the Local Government Board for 1909–10 it is stated that there are 233 districts for which this board has approved of the appointment of analysts for the purpose of making examinations under the sale of food and drugs act. These analysts examined during the course of the year 1909 a total of 97,985 samples collected in England and Wales. In 1908, 95,664 samples were collected, 8,169 were reported adversely, legal proceedings were begun in 3,643 cases, and penalties imposed by the courts in 2,673 cases. During 1908 there were 8,827 samples collected in Scotland and 9,694 in 1909.

It is pointed out in the annual report of the Local Government Board for 1907–8 "that these trifling fines, against which legal authorities have often protested, are useless for the purpose of repressing adulterations." In the United States, in addition to the fines which may be imposed, there is provided by law an effective deterrent, namely, the publication by the Government of notices of judgments of the courts; and liability to imprisonment on conviction for second and subsequent offenses.

It is almost needless to say that the results given indicate that the sale of food and drugs acts have accomplished and are accomplishing splendid work in Great Britain and are being ably administered. One noticeable feature is the fact that many of the cases are closely contested in the courts, while in the United States, under the Federal law this occurs less often. In order, however, to make such a comparison satisfactory the results obtained under the various State laws would have to be included.

TEA, DRUGS, AND OTHER PRODUCTS.

Three thousand two hundred and eighty-nine drugs were examined during the year 1908. Of this number 287, or 9 per cent, were found to be adulterated. The largest number of examinations were of camphorated oil (504 samples), cream of tartar (245 samples), and powdered licorice (184 samples).

While the greatest activity, as in previous years, was confined to the examination of dairy products and their substitutes, yet a considerable number of other food products were examined by the public analysts, including baking powder, fish, honey, olive oils, spices, sirup

and treacle, wines (nonalcoholic), yeast, mustard, coffee, tea, vinegar, ginger, ice cream, canned meats, oat meal, rice, etc.

The commissioners of customs examined during the year ending December 31, 1908, under section 30 of the sale of food and drugs act, 1875, 4,347 samples of tea, of which 3,840 were satisfactory.[1] During the year 1909, 7,647 samples of the tea were examined, of which 7,089 were considered satisfactory. The tea which examination shows to be unsatisfactory is either exported or, sometimes, allowed entry as the raw product for the manufacture of caffein.

In the United Kingdom the importation of tea is controlled by the customs officials, and they decide whether or not the importations are fit for entry. The control of tea importations into the United Kingdom is under section 30 of the sale of food and drugs act, 1875, and aims at preventing the entry of all tea unfit for food. In the United States tea dust is allowed entry for the manufacture of caffein under a specific act of Congress.[2]

As an interesting comparison, and in order to indicate the extent to which inspection at ports in the United States has developed under the food and drugs act, the following quotation from the Report of the Secretary of Agriculture for 1909 (p. 35) will suffice:

> Of imported products the branch laboratories examined 8,476 samples, about 2,500 of which were sent to Washington for reexamination. In addition, more than 79,000 samples of imported goods were submitted to floor inspection at ports of entry, without examination in the laboratory.

DAIRY PRODUCTS.

With respect to the control of dairy products, butter, condensed milk, fresh milk, cream, margarine cheese, and margarine at the ports, His Majesty's customs operating under section 1 of the sale of food and drugs act, 1899, and section 5 of the butter and margarine act, 1907, collected and examined during the year ending December 31, 1908, 1,920 samples, of which 1,169 were butter and 120 samples condensed milk, including dried milk, and of this number 3 had been called "machine skimmed milk" or "skimmed milk" as required by section 1 (1) (*c*) of the sale of food and drugs act, 1899. Five hundred and eight samples of margarine were drawn and 11 found to contain over the legal amount of 16 per cent of water. During the year ending December 31, 1909, the officers of the board of customs and excise at the ports in the United Kingdom, with a

[1] To illustrate the extent of the tea inspection at the ports, for the year ending Mar. 1, 1908, 3,952 samples of tea were examined at the ports, representing an importation of 317,065,320 pounds.

[2] Regulation of importation of teas, Rev. Stat., sec. 7698–7707, U. S. Stat. L. (1907–1909), p. 163 (chap. 170).

While these are specific laws on our statute books controlling the importation of tea, yet the Attorney General has rendered an opinion in which he holds that these acts governing the importation of tea must be read as one with the food and drugs act, June 30, 1906.

Quite recently cooperation between the Treasury Department and the Department of Agriculture has been established looking to the application of the food law to importations of tea.

view to giving effect to section 1 of the sale of food and drugs act, 1899, and section 5 of the butter and margarine act, 1907, collected the following number of samples for examination: Butter, 1,111; condensed and dried milk, 125; fresh and sterilized milk, 10; cream, 73; margarine, 510; total, 1,829.

The chief work of the customs authorities under the sale of food and drugs acts relates to certain prescribed articles of dairy produce for which special provision has been made in the law, and to the examination of tea. In addition, however, an extensive system of inspection of foods at the ports of entry has now been established by regulation made by the Local Government Board under the public health (regulations as to food) act, 1907. In connection with this inspection, foods may be sampled and analyzed independently of the sale of food and drugs acts. The administration of these regulations rests primarily with the port sanitary authorities.

GENERAL SANITARY INSPECTION.

Much is done in general sanitary inspection, and the value of the products examined is enormous. In an article on "Food inspection at the ports of entry" in the Journal of the Royal Sanitary Institute, volume 29, page 681 (1908–9), W. F. Dearden, medical health officer at the port of Manchester, says: "The value of foreign foods inspected during 1906 was, in round numbers, assessed at £200,000,000, and that this amount has not reached finality is shown by the fact that in five years the value has increased by about £30,000,000."

At this point it should be stated that the public health (regulation as to food) act, 1907, includes "the power of making regulations authorizing measures to be taken for the prevention of danger arising to public health from the importation, preparation, storage, and distribution of articles of food or drink, other than drugs or water, intended for sale or human consumption."

The United Kingdom must depend largely for its butter supply on importations. More or less adulterated butter is met with at the ports, and an effort is being made to remedy this state of affairs. Early in the year 1906 a conference was held at The Hague on the subject, which was attended by the principal chemist of the Government laboratories and one of the superintending inspectors of the Board of Agriculture and Fisheries, who conferred with officials of the Netherlands Government. The proper inspection of factories seems to be desirable, and this point is brought out in the reports discussing the work of the customs, as follows:

> Hitherto under the law of the Netherlands the Dutch inspectors have had power to enter creameries, butter factories, and shops and warehouses where butter is stored or sold, but they have no power of entry into margarine factories.[1] Consequently it

[1] This defect has now been remedied by recent legislation of the Netherlands Government.

has been the practice of persons engaged in the adulteration of butter to call their premises margarine factories.

In the United Kingdom, inspectors have had power to enter margarine factories, but no corresponding power as regards butter factories.[1] Consequently persons engaged in adding foreign fats to butter in this country have described their premises as butter factories.[2]

One of the difficulties under which the customs authorities labor is the lack of power to detain shipments pending the return of the results of analyses. By the time the analytical results are received by the customs officials the shipments are ordinarily all distributed and have gone into consumption. It was also the practice for the Board of Agriculture and Fisheries to communicate to the consignees and to the local authorities of the district in which the consignee lived that samples had been taken by the customs officials. This practice has been abandoned, as it did not yield satisfactory results.

LABELING OF IMPORTS UNDER THE MERCHANDISE MARKS ACTS, 1887–1891.

Under the merchandise marks acts, 1887–1891, the customs authorities have the opportunity to control the labeling of imported goods, including foods and drugs. Briefly summarized, their powers are limited to the detention of:

1. Any imported goods bearing marks or descriptions which are misleading as to the character, composition, or origin of the goods so marked or described, and,
2. Any imported goods of foreign manufacture bearing a name or trade-mark which is, or purports to be, the name or trade-mark of any manufacturer of, or dealer in, goods of the same description in the United Kingdom, and is unaccompanied by a definite indication of the country of origin of the goods.[3]

That the merchandise marks acts can be made to serve a very useful purpose so far as the labeling of foods is concerned is evident from the fact that, for example, consignments of spirits, distilled in European countries, in bottles labeled "finest old Scotch whisky," "vieux Cognac," "fine champagne," and "fine old Jamaica rum," were seized.

In this connection it is of interest to note the attitude taken by the customs authorities with respect to the labeling of port and sherry, as indicated by a general order issued on January 1, 1906:

Entries in which wine from countries other than Portugal is described as "port," unaccompanied by satisfactory evidence that the wine is the product of that country, should not be accepted unless the word "port" is qualified by an unmistakable indication of the country in which the wine was produced, such as Spanish port, French port, or German port. Such descriptions as Tarragona port, Catalonia port, Roussillon

[1] This defect has been remedied by the butter and margarine act, 1907.

[2] Annual Report of Proceedings under the Sale of Food and Drugs Acts, 1875–1899, etc., for the year 1906.

[3] Fiftieth Annual Report of Commissioner of His Majesty's Customs for the year ending 31st of March, 1906, p. 33.

port, or Hamburg port, must be accompanied by the words "produce of Spain," "produce of France," or "produce of Germany," as the case may be. Wines described as sherry imported from countries other than Spain should be similarly qualified."[1]

The same principle is found in Food Inspection Decision No. 122, wherein it is stated that the ports and sherries produced in California must be labeled respectively "California port," "California sherry."

EXTENT OF INSPECTION AND SAMPLING UNDER THE VARIOUS LAWS.

SPECIAL EXAMINATION OF DAIRY PRODUCTS.

That dairy products receive a great amount of attention in the United Kingdom is shown by the fact that during the year 1908, 45,093 samples of milk were examined, of which 10.5 per cent were reported as either adulterated or as falling below the minimal limits fixed by the "sale of milk regulations, 1901." These regulations do not fix a minimum percentage. Under the regulations a presumption of adulteration or abstraction is raised by a deficiency of milk fat or other solids, but if it can be proved that the milk was sold as it came from the cow, this presumption is rebutted. The sale of milk containing less than 3 per cent of milk fat, or less than 8.5 per cent of other milk solids, does not therefore necessarily constitute an offense. The effect of the regulations is merely that proof of the deficiency throws on the defendant the onus of showing by direct and positive evidence that the milk was sold as it came from the cow. The merely "presumptive" nature of these limits has given rise to a considerable agitation by local authorities for legislation establishing absolute limits.

At this point for purposes of comparison it might be pointed out that in the standards fixed in Circular No. 19 of the Office of the Secretary of Agriculture, the standard for butter fat in milk is set at 3.25 per cent. Even this is low, a milk of good average quality carrying more nearly 3.5 per cent or more. The examinations of the public analysts have resulted in the cases being brought primarily on the addition of water to milk, the abstraction of its fat, and the addition of preservatives. It is, however, gratifying to learn that drastic action, usually under other acts, has been taken for the sale of dirty milk. In one case (in 1907) in Westminster a dealer was "dealt with under the public health act, 1875, and sent to prison for six months." During the year 1909 the number of milk samples taken in England and Wales under the sale of food and drugs acts were 45,576 and of butter 20,670. During the same year in Scotland the samples of

[1] Fiftieth Annual Report of Commissioner of His Majesty's Customs for the year ending 31st of March, 1906, p. 35.

milk and butter examined were respectively 4,833 and 1,838. Of the 20,729 butter samples examined in 1908, 1,545, or 7.5 per cent, were reported adversely; 1,273 of these samples contained foreign fat.

Under the sale of food and drugs act, 1899, and the butter and margarine act, 1907, the maximum limit of butter that may be mixed with margarine is 10 per cent. In 1907, 31 samples of margarine were collected from one place in Birmingham. Of these, 12 contained from 38 to 83 per cent of butter.

INSPECTION UNDER THE BUTTER AND MARGARINE ACT, 1907.

The butter and margarine act, 1907, which is really part of the sale of food and drugs acts, 1899, is administered by the Board of Agriculture and Fisheries. This act became operative on January 1, 1908, and at present there are three inspectors (not including the local inspectors appointed by the town and borough councils) at work in Great Britain to carry it into effect. These inspectors collect samples of butter and margarine, together with a few samples of mixtures of milk and butter. During the year 1910 a total of 459 samples were taken. The Board of Agriculture and Fisheries also cooperates with the local inspectors who in some districts take samples under this act. The samples collected under the act are sent to the Bureau of Inland Revenue in London for analysis.

In Ireland there are 4 regular inspectors who look after the butter factories under the butter and margarine act, 1907, and 2 inspectors who take samples from shops. Besides these, there are 10 dairy instructors under the control of the Department of Agriculture and Technical Instruction for Ireland, and these 10 have the power of sampling. There are also 34 county instructors in dairying who are under the supervision of the department, and it is probable that the authority to sample will be extended to them also.

SAMPLING UNDER THE SALE OF FOOD AND DRUGS ACT.

While His Majesty's customs, as far as the inspection force is concerned, confine their attention to agricultural products (see p. 18), it is found that analyses of these products by the local authorities within the country is much more extensive.

For the year ending December 31, 1907,[1] the total number of samples taken by the inspectors under the local authorities in England and Wales under the sale of food and drugs act was 93,088. This included 43,794 samples of milk and 17,845 samples of butter. During this same period 6,842 total samples were taken in Scotland, 3,455 of these being milk.

An excellent plan is followed in the collection of informal test samples by the inspectors under the local authorities, and during 1907

[1] Loc cit., p. 5.

in Scotland 1,733 test samples were taken, including 702 samples of milk and 384 samples of butter. Due to the nature of the collection of these samples, it is impossible for the local authorities to bring prosecution when samples are found to be adulterated, but it gives them a very good idea of the nature of the commodities being sold to the public and indicates where the inspectors may well collect official samples. In many instances it is found that in the collection of official samples by an authorized inspector great care and circumspection have to be exercised in order to obtain those similar to the ones which are as a rule offered to the persons regularly making purchases from the merchants and who are known to them. In the United Kingdom informal sampling is mainly done by local authorities as part of their ordinary administration. The collection of informal test samples is carried on by the Department of Agriculture in this country, and much valuable information is thus obtained. The difficulty experienced in Great Britain in the collection of official samples similar to the test samples is not experienced, fortunately, by the inspectors operating under the food and drugs act in the United States. In 1909 about 10 per cent of the official samples of all kinds collected in Scotland with the formalities required by the sale of food and drugs act were found adulterated, while the informal samples showed an adulteration equivalent to about 17 per cent. Official milk samples showed about 14 per cent adulteration and informal samples nearly 28 per cent adulteration. Of the official butter samples about 9 per cent were adulterated and of the test samples about 11 per cent.

In Great Britain each county, borough, or town council appoints one or more of its officers as inspectors to take samples and act under the sale of food and drugs acts. The direction of their work is usually a duty of the medical officer of health of the district. There are about 1,000 such inspectors, and they operate largely under the sale of food and drugs act, but have little to do with the butter and margarine act.

It is somewhat surprising to find that in a country where such careful control of dairy products is exercised there is not a great deal of activity in the sale of milk obtained from herds of tuberculin-tested cows. There appears to be practically no demand for certified milk, for while some attempts have been made along this line, they have failed of popular support.

From an administrative point of view one interesting phase of this work is seen in the circulars which are sent to the local authorities in Great Britain for the purpose of aiding them in the administration of the sale of food and drugs acts, 1875–1907. The Local Government Board issues a circular annually on administrative arrangements and

also occasionally sends out special circulars relating to the adulteration of particular articles or to the reports of the board's inspectors of foods. Reference may be made by way of illustration to the circular issued under date of October 10, 1909, by the Board of Agriculture and Fisheries. This deals with the results of examination of the samples of products used for the thickening of cream. Two of the samples contained solutions of lime in cane-sugar sirup, that is, calcium sucrate, which is well recognized for its ability to thicken cream when used in small amounts. The determination of the sucrose and of the lime in the ash will reveal this adulteration. To illustrate the type of memoranda sent out by the Local Government Board to the local authorities, reference may be made to one issued on May 25, 1910, under the caption "Sampling under sale of food and drugs acts." This memorandum deals with the sale of lard substitutes as lard, the presence of water in lard substitutes, and the presence of paraffin in lard, lard substitutes, and margarine. Information of this kind from headquarters can not but be of inestimable value to the local authorities, as it keeps them in touch with the subjects under investigation and suggests what adulterants should be looked for.

DISCUSSION OF THE PRINCIPAL FOOD LAWS.

THE SALE OF FOOD AND DRUGS ACTS, 1875–1899.

The sale of food and drug acts, 1875–1899, and the butter and margarine act, 1907,[1] are the laws which are most interesting from the viewpoint of those who have to deal with the adulteration of food, and most of the prosecutions are based on these. The sale of food and drugs act, 1875, is the basic law. The amendment to it in 1899 makes a large number of changes. The most important of these changes are briefly as follows:[2]

> The changes in the law occasioned by the act of 1899, which comes into operation on the 1st of January next, are very considerable; the most important being (sec. 1) the precautions against importation of agricultural and other produce insufficiently marked; (sec. 2) power for the Local Government Board and Board of Agriculture to sample articles of food; (sec. 3) the imposition on local authorities of a legal duty to appoint analysts and exercise their powers under the food and drugs acts and power for the Local Government Board or Board of Agriculture to act in their default; (sec. 4) power for Board of Agriculture to make regulations and standards as to analysis of milk, cream, butter, or cheese; (sec. 7) provisions as to keeping of register by manufacturers and dealers in margarine and margarine cheese, and power for officers of the Board of Agriculture to inspect and take samples from manufactories of margarine and margarine cheese; (sec. 8) restriction on the amount of butter fat in margarine; (sec. 17) the increase of penalties and power in the court to imprison in certain cases; (sec. 26) the enlarged definition of food.

[1] See pp. 11 and 22 for administrative details.

[2] The Adulteration of Food, by D. C. Bartley, 3d ed., 1907.

IMPORTANT SECTIONS OF THE ACT.

The great bulk of prosecutions in Great Britain under the sale of food and drugs acts, 1875–1899, occur under sections 3 to 9, inclusive. These sections are found in the 1875 act and the ones not modified in the act of 1899 are as follows:

3. *Mixing injurious ingredients with food.* No person shall mix, colour, stain, or powder, or order or permit any other person to mix, colour, stain, or powder any article of food with any ingredient or material so as to render the article injurious to health, with intent that the same may be sold in that state, and no person shall sell any such article so mixed, coloured, stained, or powdered, under a penalty in each case not exceeding fifty pounds for the first offence; every offence, after a conviction for a first offence, shall be a misdemeanor, for which the person on conviction, shall be imprisoned for a period not exceeding six months with hard labor.

4. *Mixing drugs with injurious ingredients.* No person shall, except for the purpose of compounding as hereinafter described, mix, colour, stain, or powder, or order or permit any other person to mix, colour, stain, or powder, any drug with any ingredient or material so as to affect injuriously the quality or potency of such a drug, with intent that the same may be sold in that state, and no person shall sell any such drug so mixed, coloured, stained, or powdered, under the same penalty in each case respectively as in the preceding section for a first and subsequent offence.

5. *Proof of absence of knowledge.* Provided that no person shall be liable to be convicted under either of the two last foregoing sections of this Act in respect of the sale of any article of food, or of any drug, if he shows to the satisfaction of the justice or court before whom he is charged that he did not know of the article of food or drug sold by him being so mixed, coloured, stained, or powdered as in either of these sections mentioned, and that he could not with reasonable diligence have obtained that knowledge.

6. *Sale of articles of food and of drugs not of the proper nature, substance, and quality.* No person shall sell to the prejudice of the purchaser any article of food or any drug which is not of the nature, substance, and quality, of the article demanded, by such purchaser, under a penalty, not exceeding twenty pounds; Provided that an offence shall not be deemed to be committed under this section in the following cases; that is to say

(1) Where any matter of ingredient not injurious to health has been added to the food or drug because the same is required for the production or preparation thereof as an article of commerce, in a state fit for carriage or consumption, and not fraudulently to increase the bulk, weight, or measure of the food or drug, or conceal the inferior quality thereof;

(2) Where the drug or food is a proprietary medicine or is the subject of a patent in force, and is supplied in the state required by the specification of the patent;

(3) Where the food or drug is compounded as in this Act mentioned;

(4) Where the food or drug is unavoidably mixed with some extraneous matter in the process of collection or preparation.

7. *Compound articles of food and compounded drugs.* No person shall sell any compound article of food or compounded drug which is not composed of ingredients in accordance with the demand of the purchaser, under a penalty not exceeding twenty pounds.

8. *Protection from offences by giving label.* Provided that no person shall be guilty of any such offence as aforesaid in respect of the sale of an article of food or a drug mixed with any matter or ingredient not injurious to health, and not intended fraudulently to increase its bulk, weight, or measure, or conceal its inferior quality, if at the time of delivering such article or drug he shall supply to the person receiving the same

a notice by a label distinctly and legibly written or printed on or with the article or drug, to the effect that the same is mixed.

9. *Abstraction of part of an article of food before sale.* No person shall, with the intent that the same may be sold in its altered state without notice, abstract from an article of food any part of it so as to affect injuriously its quality, substance, or nature, and no person shall sell any article so altered without making disclosure of the alteration, under a penalty in each case not exceeding twenty pounds.

PRINCIPAL OFFENSES.

These offenses are well condensed by Bell, Scrivener, and Lloyd in their book, The Sale of Food and Drugs Acts, 1875 to 1899, fourth edition, on pages 32 et seq., of the introduction, which read as follows:

PRINCIPAL OFFENCES.

(1)—(a) The mixing of injurious ingredients with any article of food or drug sold or intended to be sold (sections 3 and 4).

(b) The selling of any article so mixed (sections 3 and 4).

(2)—(i) The selling of any article of food or drug which

(a) is inferior in nature, substance, and quality to the article demanded by the purchaser (section 6).

(b) being a compounded article of food or drug, is not compounded in accordance with the demands of the purchaser (section 7).

(ii)—(a) The abstraction from any article of food sold or intended to be sold or any part of it, so as to affect injuriously its quality, nature or substance, without making disclosure of the alteration (section 9).

(b) The selling of any article so altered (section 9).

The main differences between the two classes of offences are, that in the case of (1) it must be shown that the article is injurious to health (or, if it be a drug, that its quality or potency has been injuriously affected), whereas in the case of (2) the fact that the addition, abstraction, or whatever it may have been was harmless, is immaterial; that in the case of (1) guilty knowledge is an essential element of the offence, whereas in (2) it is not; and that the penalty under (1) is, of course, much heavier.

That offences of the first class are comparatively rare nowadays, is shown by the following extract from the report of the Select Committee of 1894–1896:

"There is reason to think that the adulteration of food with substances injurious to health has diminished greatly during recent years. Proceedings have rarely been taken under Section 3 of the Sale of Food and Drugs Act, 1875, in respect of this class of offences. No doubt this may partly be accounted for by the fact that it would in no case be an easy matter to obtain convictions under the section referred to, because it is necessary to prove that the adulteration is dangerous to health, and that the person charged with the adulteration has guilty knowledge of the same. Moreover, it is to be borne in mind that the punishments which may be inflicted for offences of this character are more severe than those imposed by the provisions of the Act which relate to adulteration with harmless substances. But whatever may be the cause of the diminution of this description of offences, it is satisfactory to note the same."

For the second class of offences, section 6 is the all-important section, and under it the bulk of the prosecutions under the Sale of Food and Drugs Acts are instituted. Although its provisions have been made the subject matter of a number of reported cases, the tendency of the decisions throughout has been to widen, rather than to curtail, its scope. It is now well recognized that the primary object of these acts is not so much the punishment of those who deserve to be punished, as the protection of the public at large, and, therefore, the seller of an adulterated article is liable to a

conviction under this section, even though he may be innocent of any attempt to cheat his customers, and though the actual offender (who can, of course, also be punished) may be a servant, or even a person over whom he has no control.

Section 7, which refers to compounded articles, is little used, inasmuch as an offence against its provisions is equally punishable under section 6.

Section 9 deals with abstraction alone, and was specially designed to meet the case of the removal of cream from milk. Its provisions are more stringent than those of section 6, and certain defences which are available under section 6, as will be seen presently, are not available under section 9.

COMPARISONS WITH THE FOOD LAW OF THE UNITED STATES.

Section 3 of the 1875 act resembles somewhat in its wording certain phraseology found in the food law of the United States, namely, section 7, paragraph 4, in the case of foods, where it is held that a food is adulterated "if it be mixed, colored, powdered, coated, or stained in a manner whereby damage or inferiority is concealed." The 1875 act, however, makes the offense depend upon the mixing, coloring, staining, and powdering with an ingredient so as to render the article injurious to health. Another very important difference lies in the phrase "with *intent* that the same may be sold in that state." Under this section a provision is made for a prison sentence not to exceed six months on a second conviction. The penalties provided for under the sale of food and drugs acts are such that the first offense bears a maximum penalty of £20, the second offense £50, and the third and subsequent offenses £100 each (sec. 17, act of 1899). Provision is also made in section 17 of the act of 1899 for imprisonment, where the "offense," in the opinion of the court, "was committed by the personal act, default, or culpable negligence of the person accused." The limit of imprisonment is three months.

Under our Federal law, where conviction is obtained in the courts for shipping misbranded or adulterated foods or drugs in interstate commerce, the limit of the penalty is a $200 fine for the first offense, and for each subsequent offense a fine not to exceed $300 or imprisonment not to exceed one year, or both, in the discretion of the court.

The penalty for the manufacturer of proscribed foods and drugs within the Territories and the District of Columbia is more severe than for their sale in interstate commerce, being for each offense a fine not to exceed $500 or one year's imprisonment, or both, within the discretion of the court.

In prosecutions under section 3 of the English law guilty knowledge must be proven. This is required by section 5. The courts of Great Britain have not been invoked to act frequently under section 3. The question of intent has decreased its usefulness, and again, trials based on it are found to be very expensive because of the expert evidence necessary to prove the effect on health of the articles of food under discussion. It is in connection with this section that the "Report

of the departmental committee, appointed to inquire into the use of preservatives and coloring matters in the preservation and coloring of food" is of value. The report of this committee was published in 1901, and their recommendations are given on page 30.

In 1896 the justices at South London sessions had before them the question of sulphate of copper used in greening peas. They held that it was in violation of section 3 to sell a 1-pound bottle of peas with the knowledge that it contained an amount of copper equivalent to 3 grains of this chemical. This is equivalent to 0.8 grain of metallic copper per pound. (Sumners *v.* Grist, 60 J. P., 346.) There have in fact been other successful prosecutions in the courts of Great Britain because of the large amounts of copper found in peas and spinach. Among recent cases, reference may be made to spinach containing 10 grains of copper sulphate per pound (British Food Journal, 1910, p. 19), and peas containing 3.5 grains of copper sulphate per pound (British Food Journal, 1910, p. 99).

Under section 3 of the act of 1875 it is not sufficient to prove that the substance mixed with the food is injurious to health, but it is necessary to show that the food so prepared is injurious. A person can not be prosecuted for the sale of an injurious article not in itself a food, although the vendor had knowledge that the injurious substance was to be mixed with foodstuffs or used in their preparation.

In the law of the United States there are two requirements: (1) The added ingredient must be shown to be a poison or a deleterious substance; (2) the article containing the added poison or deleterious substance must be shown to be one that may be injurious to health.

Section 4 of the act of 1875 deals with drugs, and its phraseology is somewhat similar to that of section 3, which deals with foods. This difference is to be noted: Section 4 says nothing about the drug being injurious to health, but merely that the mixing, etc., shall "affect injuriously the quality or potency" of the drug, and section 5 relieves the vendor from responsibility if he can show the absence of knowledge of the fact that the potency or quality of the drug had been injured and "that he could not with reasonable diligence have obtained that knowledge."

The most important section of all is section 6, for under it most of the prosecutions are now brought. Under this section it is in violation of the sale of food and drugs act to "sell to the *prejudice* of the purchaser any article of food or any drug which is not of the *nature, substance,* and *quality* of the article demanded." One important feature, however, of the whole section which differentiates it from sections 3 and 4 is that it is not incumbent to prove guilty knowledge; that is, that the *vendor knew* that the purchaser was being prejudiced by purchasing a product not of the nature, substance, and quality demanded. This makes the provisions of these acts more readily

enforced, and prosecutions may be brought under section 6 which might have been unsuccessful if brought under sections 3 and 4. In the administration of section 6 one phase of judicial construction is particularly interesting because it shows the difference in the method of handling cases in Great Britain and in the United States. In Great Britain "a purchaser can not be prejudiced when notice is given to him at the time of the sale that an article sold is not of the nature, substance, and quality of the article he demands." In the United States it is required that the label give proper notice; that is, if a product is labeled, it must carry truthful statements on it. There is, in general, no legal requirement for placing a label on a food, and in the case of drugs, only limited requirements. It is possible, however, for a food to be both adulterated and misbranded although bearing no label. The Secretary of the Treasury, the Secretary of Agriculture, and the Secretary of Commerce and Labor, in Regulation 22 of the Rules and Regulations for the Enforcement of the Food and Drugs Act (Circular No. 21, revised), state that—

> It is prohibited to sell or offer for sale a food or drug product bearing no label upon the package or no descriptive matter whatever connected with it, either by design, device, or otherwise, if said product be an imitation of or offered for sale under the name of another article.

There are, under section 6 of the sale of food and drugs act, four provisos which give exemption from its terms. Subsection 2 excludes proprietary medicines from the consideration of the law. Subsection 3 of section 6 is inoperative because the law is silent as to how drugs are to be compounded.

No standards are written into many of our State laws nor into the Federal law, and the same is practically true of the sale of food and drugs act[1] and it is necessary in consequence to determine in each specific case whether the article is in violation of section 6. The British Pharmacopœia is generally made use of in connection with the enforcement of the law, and though it is not conclusive, very strong evidence is necessary to displace it.

Subsection 4 of section 6 leaves it to be determined in each instance by evidence whether or not a food or drug has been unavoidably mixed with extraneous matter in the process of collection or preparation. This must be necessarily so in the absence of standards, and there is a complete parallel in the food and drugs act of the United States. While Circular 19 of the Office of the Secretary of Agriculture may serve as a guide in determining whether, for example, cayenne pepper has an undue amount of sand or dirt ground with it, yet it must be determined by the courts whether or not the amount found constitutes an adulteration.

[1] There are a few exceptions in the sale of food and drugs acts, as water in spirits (1879 act, sec. 6); water in butter and margarine (butter and margarine act, 1907), etc.

This identical type of question has in fact come before the British courts and they determined that "owing to the method in which caper tea is produced, the presence of 3.5 per cent of mineral matter in the tea did not constitute an adulteration, and that the seller was protected by this subsection."

Section 7 is less broad in its language than section 6, and any article in violation of the former may be prosecuted under the latter. Section 7 seems to apply to those compounded goods, "the composition of which is distinctly recognized or indicated."

Section 8 is a labeling provision, and in effect provides that an article if distinctly and legibly labeled is not in violation of this section, unless the food or drug is mixed in a manner to increase its bulk, weight, or measure, fraudulently. With this latter provise in view, the British courts have held that a mixture of 60 per cent of chicory and 40 per cent of coffee was, in spite of a label stating that the product was such a mixture, in violation of section 8, because the chicory has been fraudulently added to increase its bulk, weight or measure. In this case, however, it appears that the inspector asked for coffee and received the product labeled as a mixture of chicory and coffee, which it was in fact. In another case, an inspector asked for "French coffee" and received a product so labeled, the label indicating further that the product was a mixture of chicory and coffee. The courts of Great Britain held that the label gave proper notice to the purchaser and that he was not prejudiced. In another case, where the purchaser asked for "coffee" he was informed that there was none in stock and was sold instead a product labeled "coffee and chicory," his attention having been called to the label prior to the purchase. The courts refused to convict in this case.

Section 9 has its counterpart in section 7 (3) in the case of foods in the food law of the United States, which considers a food adulterated "if any valuable constituent of the article has been wholly or in part abstracted."

Section 9 appears to have been included in the sale of food and drugs acts to cover especially those cases where milk has been deprived of the whole or a part of the butter fat or cream normal to it.

There has been a number of interesting milk cases brought under this section. For example, a product was labeled "condensed skimmed milk." Analysis showed that 97 per cent of the fat had been removed by means of a separator. Inasmuch as proof was adduced that not over 63 per cent of milk fat could be removed by skimming, the product was not properly designated as "condensed *skimmed* milk" and the high court did not interfere with the judgment of the lower court in this case, which had been for conviction. In another case a product was labeled "condensed milk, Swiss dairy

brand"; in small type the label bore the further legend, "this tin contains skimmed milk." There was a deficiency of 93 per cent butter fat, but the court held that the purchaser had been sufficiently informed as to the character of the product although his attention had not been specifically called to the label at the time of purchase. Another interesting case is that of a vendor of milk who, over a period of four or five hours, sold milk in small amounts from a can containing 8 gallons of whole milk. The milk was not thoroughly mixed each time a sale was made and as the cream rose the lower part of the can contained a milk deficient in fat. When but 2 quarts remained, an inspector purchased a sample, which on analysis was found to show a deficiency of 33 per cent of fat and the courts decided that section 8 had been violated.

METHOD OF SAMPLING.

The method of sampling is very similar to that pursued by the inspectors under the American law. It is required that the samples, so purchased for analytical purposes, shall be divided into three parts at the time of purchase, and after sealing or otherwise marking each part the consignor "shall, if required to do so, deliver one of the parts to the seller or his agent." The consignor must, however, be informed at the time of purchase that the samples are to be analyzed by the public analyst. One of the remaining parts goes to the public analyst, the other is retained for "future comparison." If this third sample is lost or becomes spoiled so as to be unfit for analysis, the case can not be tried in court, for the court will require that the third sample be produced. The vendor can appeal for the third sample to be analyzed, and such analysis is made in the inland revenue laboratory. The vendor may have his sample analyzed by anyone he chooses. This brings about a very peculiar situation, namely, that it is possible for the public analyst to have for examination not only the official sample, but also the vendor's sample, because most public analysts are not exclusively engaged in the public service, but are engaged in outside work as well.

The regulations in this country require that "A sample taken from bulk goods shall be divided into three parts, and each shall be labeled with the identifying marks. If a package be less than 4 pounds, or in volume less than 2 quarts, three packages shall be purchased when practicable * * *. When three samples are purchased, one sample shall be delivered to the Bureau of Chemistry or to such chemist or examiner as may be designated by the Secretary of Agriculture; the second and third samples shall be held under seal by the Secretary of Agriculture, who, upon request, shall deliver one of such samples to the party from whom purchased or to the party guaranteeing such merchandise. When it is impracticable to collect

three samples or to divide the sample or samples, the order of delivery outlined above shall obtain, and in case there is a second sample the Secretary of Agriculture may, at his discretion, deliver such sample to the parties interested. All samples shall be sealed by the collector with a seal provided for the purpose."

In the United Kingdom the Local Government Board, as well as the Board of Agriculture, has power to collect samples under the sale of food and drugs act, and when they are collected "the officer procuring such sample shall divide the same into four parts and shall deal with three of such parts in the manner directed by section 14 of the sale of food and drugs act, 1875, as amended by this act and shall send the fourth part to the board * * *." This is taken from section 2 of the sale of food and drugs act, 1899. The amendment referred to (sec. 13 of the act of 1899) is discussed above and differs but little from the form in which it is found in the 1875 statute.

There exists, however, one marked difference in the mode of collecting small samples. In Great Britain the separation or subdivision must be made from a sample comprising the whole amount purchased. In one instance an inspector purchased six bottles of camphorated oil which were subdivided into three sets of two bottles each. The court held that this was not the correct procedure and that the samples were illegal. What should have been done was to mix the entire contents of the six bottles and then subdivide as required by the law.

It should be noted in passing that the sale of food and drugs act provides a penalty for refusing to sell an article to any officer.

The certificate of analysis and findings of the public analyst are considered as evidence in the courts, but the analyst is always subject to call for testimony at the wish of the defendant or prosecutor. While this is specifically provided for in the sale of food and drugs act, 1875 (sec. 21) and 1899 (sec. 22), when certificates are submitted by both parties interested in the prosecution and the results given are more or less contradictory, it is left to the magistrate to determine which is the more reliable. If the difference is a matter which can be determined by analysis of the third or reserve sample, the magistrate in such cases adjourns the case for a report on that sample by the principal chemist of the Government (inland revenue) laboratory.

GUARANTIES.

One of the important sections of the act of 1875 is section 25, as amended by section 20 of the act of 1899. These sections deal with the question of warranty. The act of 1875 (sec. 25) provides that

> If the defendant in any prosecution under this act prove to the satisfaction of the justices or court that he had purchased the article in question as the same in nature substance, and quality as that demanded of him by the prosecutor, and with a written warranty to that effect, that he had no reason to believe at the time when he sold i

hat the article was otherwise, and that he sold it in the same state as when he purhased it, he shall be discharged from the prosecution, but shall be liable to pay the osts incurred by the prosecutor, unless he shall have given due notice to him that he vill rely on the above defense.

The amendment (sec. 20 of the act of 1899) changes the scope of he above somewhat, but does not render negative the principle that warrant under such certain conditions is in itself a good defense. This principle has also been included in the food law of the United States under section 9, wherein a guaranty may be used as a defense provided it comes from the person from whom the goods were purhased. In England the primary object was to protect the innocent etailer, as under the English sale of food and drugs acts the prosecuions are always first instituted against the dealer. The English waranty provisions, while protecting the retailer, are defective against he wholesaler or manufacturer, and there is at present a considerable lemand from local authorities for legislation which will enable them nore effectively to reach the responsible person. Section 20 (3) of he act of 1899 provides that—

A warranty or invoice given by a person resident outside the United Kingdom shall ot be available as a defence * * * unless the defendant proves that he had taken easonable steps to ascertain and did in fact believe in the accuracy of the statement ontained in the warranty or invoice.

Herein is a distinction to be drawn between the warranty section f the sale of food and drugs act, 1899, and that of the American law, ection 9 of which provides that the guaranty must be signed by a arty residing in the United States.

SALE OF MILK REGULATIONS, 1901.

By virtue of the authority given the Board of Agriculture in section of the sale of food and drugs act (1899), it has issued what is termed he "Sale of milk regulations, 1901." When milk contains less than 3 er cent of milk fat or less than 8.5 per cent of solids not fat, it lies with he seller to prove that water has not been added. The same is true n the case of skimmed milk containing less than 9 per cent of total nilk solids. Under the same authority (sec. 4) the Board of Agriculure has issued the sale of butter regulations, 1902. These provide hat if butter contains more than 16 per cent of water, it rests with the eller to prove that water was not intentionally added. It is estabished that milk may contain under certain circumstances less than 3 er cent of milk fat and still be genuine; on the contrary, milk may ave over 3 per cent of milk fat and not be a genuine milk. The sale f milk (Ireland) regulations, 1901, and the sale of butter (Ireland) egulations, 1902, are identical with those discussed above for Great Britain.

In 1907 a request was made of the Board of Agriculture and Fisheries for legislation making it compulsory for local authorities, in cases where milk was found below the standards set forth in the sale of milk regulations, 1901, to resort to the procedure known as the appeal to the cow. This procedure was to consist in the collection of fresh samples within 24 hours after the inspector had collected the suspected milk, due regard being given to the amount of milk sent out by the cow keeper on the day of the appeal as compared with the amount sent out on the day on which the sample was collected by the inspector. The Board of Agriculture and Fisheries does not appear to favor this appeal to the cow being made compulsory, for there are apparently serious administrative difficulties which would render such legislation unwise. It appears, however, that when this practice has been voluntarily instituted by the several local authorities, some useful results have been obtained.

BUTTER AND MARGARINE ACT, 1907.[1]

On the 1st of January, 1908, the butter and margarine act, 1907, went into effect. This act is a part and parcel of the sale of food and drugs acts, but deals exclusively with the control of margarine, butter, and "milk-blended" butter. By the term "margarine" is understood "any article of food, whether mixed with butter or not, which resembles butter and is not milk-blended butter." "Milk-blended butter" is any mixture produced by mixing or blending butter with milk or cream other than condensed milk or cream."

The butter and margarine act, 1907, provides for the power of entry at all reasonable times by Government officers upon "premises registered under the sale of food and drugs acts or this act, and to inspect any process of manufacture, blending, reworking, or treatment used therein, and to take samples for analysis of any butter, margarine, margarine cheese, milk-blended butter, or of any article capable of being used in the manufacture, treatment, or adulteration of any such article aforesaid." Margarine cheese is defined in section 25 of the sale of food and drugs act, 1899, as "any substance, whether compound or otherwise, which is prepared in imitation of cheese, and which contains fat not derived from milk."

If any substance is found on the premises of a butter factory intended for use in adulterating butter, the one occupying such premises is guilty of an offense under the act. A legal maximum limit of 16 per cent of water is placed on butter in cases where butter is prepared for sale or consignment in a butter factory, which butter has been made, blended, reworked, or treated in the factory. Milk-blended butter must not contain over 24 per cent of water. It is likewise an offense to import into the United Kingdom butter con-

[1] See p. 22 for administration.

taining more than 16 per cent of water, margarine having more than 16 per cent of water and 10 per cent of butter fat, or milk-blended butter having in excess of 24 per cent of water. The importation of any of these products containing preservatives prohibited by any regulation made under this act, or any more of a preservative than may be permitted under such regulations, is forbidden. The preparation of regulations for the use of preservatives is placed in the hands of the Local Government Board, and such regulations apply as well to sales within the United Kingdom as to importations.

That portion of the butter and margarine act, 1907, which applies to imports is merely an addition to the power given the commissioners of customs under the sale of food and drugs act, 1899, in section 1. In this connection it is of interest to note that this section 1 requires all "condensed separated or skimmed milk" offered for import, to bear in large and legible type the legend "machine-skimmed milk," or "skimmed milk," as the case may require.

This act defines clearly how margarine must be labeled, how invoiced, and how advertised. In brief, it must be called "margarine," though this name may be combined with some descriptive or fancy name, which, however, must have the approval of the Board of Agriculture and Fisheries. This board must likewise approve of the names under which milk-blended butter may be sold.[1] Another provision of this act is that which requires the wrappers carrying such a product to bear in an approved form a statement of its water content. This law likewise forbids the Board of Agriculture and Fisheries from approving any name to be used in connection with the sale of margarine or milk-blended butter, which "refers to or is suggestive of butter or anything connected with the dairy interest." The total number of butter factories registered under the butter and margarine act, 1907, on December 31, 1908, was 159; of margarine factories, 30; and of factories for mixing or blending butter and milk, 12.

In the United States there are specific laws covering oleomargarine (or margarine, as it is called in the United Kingdom) and adulterated and process or renovated butter. The oleomargarine law is the act of August 2, 1886 (24 Stat., 209), as amended by acts of October 1, 1890 (26 Stat., 621), and May 9, 1902—

to make oleomargarine and other imitation dairy products subject to the laws of any State or Territory, or the District of Columbia, into which they are transported, and to change the tax on oleomargarine, and to impose a tax, provide for the inspection, and regulate the manufacture and sale of certain dairy products, and to amend an act entitled "An act defining butter, also imposing a tax upon and regulating the manufacture, sale, importation, and exportation of oleomargarine." Approved August 2, 1886.

[1] In a similar manner the Secretary of Agriculture either approves or disapproves of labels to be used on "renovated" or "process" butter.

This act and its amendments are enforced by the Commissioner o Internal Revenue of the Treasury Department, who has the authority given him by law to "make all needful regulations for the carrying into effect of this act." His regulations must, however, receive the approval of the Secretary of the Treasury. (Sec. 20, act of Aug. 2 1886.)

In section 5 of the act of May 9, 1902, the Secretary of Agriculture is—

authorized and required to cause a rigid sanitary inspection to be made, at such time as he may deem proper or necessary, of all factories and storehouses where process o renovated butter is manufactured, packed, or prepared for market, and of the prod ucts thereof and materials going into the manufacture of the same. All process o renovated butter and the packages containing the same shall be marked with the words "renovated butter" or "process butter" and by such other marks, labels, o brands, and in such manner as may be prescribed by the Secretary of Agriculture and no process or renovated butter shall be shipped or transported from its place o manufacture into any other State or Territory, or the District of Columbia, or to any foreign country, until it has been marked as provided in this section. The Secretary of Agriculture shall make all needful regulations for carrying this section into effect and shall cause to be ascertained and reported from time to time the quantity and quality of process or renovated butter manufactured, and the character and the con dition of the material from which it is made. And he shall also have power to ascer tain whether or not materials used in the manufacture of said process or renovated butter are deleterious to health or unwholesome in the finished product, and in case such deleterious or unwholesome materials are found to be used in products intended for exportation or shipment into other States or in course of exportation or shipmen he shall have power to confiscate the same.

Regulations No. 9, revised July, 1907, of the United States Interna Revenue, contains the "Revised regulations concerning oleomargarine, also adulterated butter and process or renovated butter." These regulations have not been greatly modified, but where such revision has taken place they are published as Treasury Decisions (as, for example, T. D. 1498).

As illustrating the fact that the problems with which those who administer the food laws of the United Kingdom have to deal are the same as those that are being dealt with in the United States, reference may be made to the difficulties which the Board of Agriculture and Fisheries has met with in approving of names for margarine The annual report of the intelligence division of this board for the year 1907 (p. 15) says:

The board also declined to approve of words or phrases importing praise, except praise of a kind which is not applicable to margarine, and of words which imply that the margarine is suitable for any particular purpose. The necessity for this precaution has been already fully demonstrated, as more than one firm has attempted to refer to the board's approval of names on wrappers and in advertisements in such a way as to convey to the purchaser the idea that the margarine itself had been approved by the board.

The same type of difficulty is encountered in the United States, where the guaranty legend is often said to represent the Government's guarantee of the quality of the article on which such a legend is placed. Unfortunately it is so looked on by many, and this view is undoubtedly fostered by the unscrupulous. Food Inspection Decision 99, amending Regulation 9 of the food and drugs act, was issued to minimize this difficulty, and requires that the name of the guarantor be inserted in the guaranty legend on the label.

A long step forward has been made by this butter and margarine act, 1907, by controlling the name by which margarine is described in an advertisement.

FERTILIZERS AND FEEDING STUFFS ACT, 1906.

It is through the fertilizers and feeding stuffs act, 1906, that control is had of feeding stuffs for animals other than man. The gist of this act, apart from the portion relating to fertilizers, is found in section 2, which states that—

> (2) Every person who sells for use as food for cattle or poultry any article which has been artificially prepared shall give to the purchaser an invoice stating the name of the article, and whether it has been prepared from one substance or seed or from more than one substance or seed, and in the case of any article artificially prepared otherwise than by being mixed, broken, ground, or chopped what are the respective percentages (if any) of oil and albuminoids contained in the article, and the invoice shall have effect as a warranty by the seller as to the facts so stated, except that as respects percentages the invoice shall have effect as a warranty only that the actual percentages do not differ from those stated in the invoice beyond the prescribed limits of error.

When an article is sold for feeding purposes it is supposed to be suitable for the use to which it is to be put, and to contain no other materials than those indicated by the name or description under which it is sold. Upon payment of a stipulated fee, any purchaser may receive a Government analysis of any feeding stuff if a sample is submitted within 10 days of the delivery or receipt of invoice.[1] An official sampler is also required to take the samples for analysis, at the request of the purchaser, but such samples may also be taken without such request. Three samples are taken when there is a possibility of civil or criminal proceedings being instituted, and, after sealing, the official sampler must deliver one of them to the seller. This plan of delivering one sample to the seller was followed in the administration of the United States food and drugs act, but it was found in some cases to be impracticable and useless, as prosecutions lie against vendors in States only when they sell in "original packages" as defined by the Supreme Court with respect to articles of interstate commerce. In the United States, when a request is made for an official sample, it is always given if practicable; the fertilizers and feeding

[1] In some of our States provision is made for the State analyst to make such analysis upon payment of the required fee.

stuffs act, 1906, renders such a procedure obligatory. As in proceedings under the sale of food and drugs act, the certificate of the analyst is sufficient evidence of the facts therein stated, unless the defendant makes a specific request for the appearance of the analyst.

It is forbidden to sell any feeding stuff without an invoice unless there is a reasonable excuse therefor. Such invoices shall not be "false to any material particular to the prejudice of the purchaser." Neither shall the feeding stuff contain an article dangerous to cattle or poultry nor have added to it "any ingredient worthless for feeding purposes and not disclosed at the time of the sale."

An excellent provision limits the time within which a prosecution may be brought "for an offense of causing or permitting an invoice or description to be false in any material particular." No prosecution can be instituted "after an expiration of three months from the date when the invoice was received by the purchaser." The rapidity with which cases must be carried to the courts under the sale of food and drugs acts is evidenced by section 19 of the 1899 act, wherein it is provided as follows:

Time for proceeding and regulation as to summons.—(1) When any article of food or drug has been purchased from any person for test purposes, any prosecution under the sale of food and drugs acts in respect of the sale thereof, notwithstanding anything contained in section 20 of the sale of food and drugs act, 1875, shall not be instituted after the expiration of 28 days from the time of the purchase.

A number of regulations have been issued under the fertilizers and feeding stuffs act, 1906. They contain much of interest and value, dealing as they do with the practical side of the administration of this act. For example, the fertilizers and feeding stuffs (methods of analysis) regulations, 1908, deal with the details of analysis of feeding stuffs and discuss the preparation of the sample, determination of moisture, determination of oil, and determination of albuminoids. Such methods are official and especially desirable because they give a standard which is used by each of the analysts, thus producing comparable results. These methods have their counterpart in the methods of the Association of Official Agricultural Chemists.[1]

The fertilizers and feeding stuffs (sampling, etc.), regulations, 1906, dated December 27, 1906, deal more in details relative to the methods of sampling. The difficulty of procuring satisfactory samples of feeding stuffs is well recognized, and standard methods are particularly useful because of the greater ease of obtaining uniform analytical figures.

Another regulation which works for uniformity of interpretation is known as the fertilizers and feeding stuffs (limits of error) regulations, 1910, dated January 25, 1910. These limits of error apply to the statement of the percentages of oil and albuminoids as found in

[1] U. S. Dept. Agr., Bureau of Chemistry Bul. 107, Revised.

the invoice accompanying the sale of feeding stuffs and they vary with the class of feeding stuffs concerned. In cotton-seed cake or meal the analysis may vary one-tenth of the percentage of oil or albuminoids stated in the invoice, in such products as linseed cake or meal the variation may be as great as one-eighth, and in other types of feed it may even be one-fifth. The limits of error only affect civil proceedings for damages consequent on breach of warranty. The warranty in the invoice is that the actual percentages do not differ from those stated in the invoice beyond the prescribed limits of error. If the limit of error is 1 per cent and the deficiency is 3 per cent, civil proceedings can be taken for the recovery of the value of 2 per cent. Proceedings could be instituted under section 6 even though the deficiency was not beyond the limits of error, but such a case is not likely to occur in practice. These limits of error are generous and exceed distinctly the limits used in the administration of the food and drugs act by the Department of Agriculture in its control of similar products.[1] It might be pointed out that under the head of albuminoids, ammoniacal and nitric nitrogen should not be, and in fact are not, included.

During the year 1909 there were 1,995 samples of feeding stuffs collected in England, Scotland, and Wales.

THE PUBLIC HEALTH ACT, 1907.

What is destined to be one of the most valuable of the food-control laws of Great Britain is the public health (regulations as to food) act, 1907. This act is principally of value in that power is given to make regulations authorizing measures to be taken for the prevention of danger arising to public health from the importation, preparation, storage, and distribution of articles of food or drink (other than drugs and water) intended for sale for human consumption. This act also contains the very essential requirement that articles commonly used for the food or drink of man shall be deemed to be intended for sale for human consumption unless the contrary is proved. This would apply to all those cases which are so often difficult to judge, namely, where the product has a dual use, first, for food, and second, for technical purposes. There are undoubtedly cases where a product fit only for the second class has been used for the first, and it would appear the part of wisdom to rest the burden of proof, as to the use to which a product is to be put, on the dealer. The administration of this act is in the hands of the Local Government Board.

The first regulation issued under this act was the public health (first series, unsound food) regulations, 1908. These deal with the

[1] Five per cent, in case the protein, fat, or crude fiber content exceeds 20 per cent, and 8 per cent when the protein content is less. The percentage of these ingredients found by analysis must not, however, run uniformly below the stated percentages, by the amount set by these limits.

control and handling of food from foreign countries which is unsound and unwholesome and unfit for consumption. Inspection takes place at the port of entry. Similar work had formerly been locally carried on at the port of London under the port sanitary authority and also at the port of Manchester, but such control had not been general until the issue of these regulations. When such unsound food is discovered by the medical officer of health of the port sanitary authorities, and the importer does not surrender it for destruction or dispose of it in a manner approved by the medical officer of health, an application for an act of condemnation is made of a justice, who may order the destruction of such food or provide for its disposal, except as an article for human consumption.

There have also been established public health (foreign meat) regulations, 1908. These regulations have for their object the control of the character of meat of various kinds coming from foreign countries and in general "to provide means by which foreign meat generally which is diseased, unsound, unwholesome, or unfit for human consumption may be detected and dealt with by the public health authorities at the place of importation." Such regulations are especially necessary in Great Britain because of the reliance that must be placed on importations to furnish an adequate food supply.

Official recognition has been given to certain countries respecting their inspection of meat obtained from cattle or pigs. When such meat products bear an official tag and come from Denmark, the Netherlands, the Dominion of Canada, or the Dominion of New Zealand they are recognized in general as coming from animals free from disease, as having been prepared and packed properly, and as not offering any danger to public health. The fact that such products are properly labeled, while giving facilities in the matter of inspection at the ports of entry, does not, however, grant any immunity from such inspection. These regulations virtually forbid the importation into the United Kingdom of a few specified articles of food, among which are included meat in the form of scraps, not identifiable with definite parts of the carcass; tripe, tongues, and kidneys which have been treated with preservatives, including boric acid; and fresh or frozen pork, when in portions less than the entire carcass, if not inclosed in a receptacle bearing an accepted certificate as to inspection in the country of origin.

THE MERCHANDISE MARKS ACTS, 1887–1894.

The merchandise marks act of 1887 makes it an offense, among other things, for any person to apply any false trade description to goods, unless "he proves that he acted without intent to defraud." (Sec. 1.) Not only does this act apply to the manufacturers, but likewise to "every person who sells, or exposes for, or has in his possession

r, sale, or any purpose of trade of manufacture" any such goods. he expression "trade description" as defined by the act means any description, statement, or other indication, direct or indirect,) as to the number, quantity, measure, gauge, or weight of any ods, or (*b*) as to the place or country in which any goods were ade or produced, or (*c*) as to the mode of manufacturing or pro- ucing any goods, or (*d*) as to the material of which any goods are mposed, or * * *."

These brief quotations from the merchandise marks act, 1887, show once their applicability to the sale of food and drugs acts, and ese principles have been used in the prosecution of manufacturers nd dealers guilty of misbranding of their wares. The term "false ade descriptions" is also described in the act to apply to the use of ny false or fictitious name. As illustrative of the skillful method sed in handling certain types of trade descriptions, namely, those here foreign names are used, the whole of section 18 is here given:

18. Where, at the passing of this act, a trade description is lawfully and generally plied to goods of a particular class, or manufactured by a particular method, to dicate the particular class or method of manufacture of such goods, the provisions this act with respect to false trade descriptions shall not apply to such trade descrip- on when so applied: *Provided*, That where such trade description includes the me of a place or country, and is calculated to mislead as to the place or country here the goods to which it is applied were actually made or produced, and the ods are not actually made or produced in that place or country, this section shall t apply unless there is added to the trade description, immediately before or after e name of that place or country, in an equally conspicuous manner, with that me, the name of the place or country in which the goods were actually made or oduced, with a statement that they were made or produced there.

An application of the principle here laid down appears on page 20 this bulletin, wherein is given the rule for labeling port and sherry ines produced in other countries than Portugal or Spain.

The merchandise marks act, 1887, was amended in 1891 and again 1894, but the amendments are more commonly in connection with e administrative features of the 1887 act.

That the merchandise marks act may be of service in protecting e public against food which has been misbranded is shown by e work of the Board of Agriculture and Fisheries, which has its forcement in hand as regards agricultural produce. Reference, for ample, may be made to a prosecution brought at the instance of e Department of Agriculture and Technical Instruction for Ireland. firm of provision merchants were successfully prosecuted for selling "Irish" bacon a product of American origin. This department so has an inspector established in Great Britain to protect the terests of the Irish agricultural products. This step was taken cause it appeared that the Irish trade had suffered materially cause of frauds which had been practiced. This action of the

Irish authorities has already produced good results and undoubtedl still more marked results will be obtained in the future.

Under the merchandise marks acts attention has also been pai to such food products as butter, cheese, cider, and condensed mil which were misbranded. During the year 1909 successful prosecu tions were instituted for the sale of foreign poultry as English, foreig eggs as Irish, beverages falsely labeled as cider and perry, and foreig vegetables as English.

ACKNOWLEDGMENTS.

An attempt has been made in this bulletin merely to outline som of the important phases of the sale of food and drugs acts and thos allied laws which make for the control of foods and drugs and for th protection of the consumer. Full acknowledgment is hereby give for the information obtained from various official publications, a well as from the various treatises which have been published on thi subject. Acknowledgment is also made to those administrativ officers through whose courtesy I was enabled to obtain much valu able information during an investigation of this subject made durin the summer of 1908. These officials, both in England and Ireland whom I have had the opportunity of consulting are accomplishin a splendid work. The problems confronting them in matters con cerning the protection of the public health and the prevention o fraud are essentially those which are being dealt with in the Unite States. In this country we try to accomplish under our one la what they accomplish under many, but we have had the advantag in having the more recent legislation and have been able to tak advantage of their experience. Then, too, conditions are not abso lutely parallel, because the authority of the States is here clearly an distinctly outlined, while in Great Britain there is no such broad lin of demarcation.

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